Amendments to the Claims:

This listing of the claims will replace all prior versions of the listing of the claims in the application.

Listing of Claims:

1. (Currently Amended) A method of manufacturing a nanotube growing mat comprising:

providing a substrate ~~including~~ comprising a uniform supporting layer and carbon;

applying nanosized catalytic particles ~~on the substrate~~ in a bi-dimensionally organized monolayer on the uniform supporting layer in a predetermined pattern, the pattern promoting growth in an organized manner from the catalytic particles as a function of the pattern.

2. (Original) The method of claim 1, wherein the substrate is porous.

3. (Currently Amended) The method of claim 1, wherein the ~~substrate includes~~ uniform supporting layer comprises a patterned monolayer of carbon nano- or micro-particles.

4. (Original) The method of claim 3, wherein the substrate comprises non-carbon elements selected from the group consisting of Si, N, and P, to produce a hetero-substrate.

5. (Currently Amended) The method of claim 4, wherein the substrate and the hetero-substrate are placed in a multilayer configuration.

6. (Original) The method of claim 4, wherein the hetero-substrate contains Si which is incorporated into the nanotube produced on the mat and produces a hetero-nanotube with carbon and silicon.

7. (Original) The method of claim 5, wherein the multilayer configuration produces a complex nanotube comprising carbon and silicon in alternating layers.

8. (Original) The method of claim 1, wherein the catalytic particles are a metal.

9. (Original) The method of claim 8, wherein the catalytic particles are deposited in a monolayer.

10. (Original) The method of claim 8, wherein the metal is selected from the group consisting of Fe, Co, Ni, Y, Mo and their alloys.

11. (currently Amended) The ~~mat~~ method of claim 10, wherein the nanosized catalytic particles are applied ~~on the carbon substrate by a~~ by an application method selected from the group consisting of transmission electron microscopy, monolayer generator 1 method, Langmuir-Blodgett, apparatus producing Langmuir-Blodgett films and Dynamic Thin Laminar Flow.

12. (Currently Amended) The ~~mat~~ method of claim 11, wherein the application method is the monolayer generator 1 method.

13. (Currently Amended) A method of producing organized nanotubes comprising:

preparing a nanotube growing mat comprising:

a substrate ~~including~~ comprising a uniform supporting layer and carbon; and

nanosized catalytic particles in a bi-dimensionally organized monolayer on the substrate, wherein the catalytic particles are applied in a predetermined pattern on the ~~substrate~~ uniform supporting layer, the pattern promoting growth of nanotubes in an organized manner which is a function of the pattern;

activating the mat; and

flowing a carrier gas in a direction whereby the nanotubes are produced from the mat on a continuous basis.

14. (Original) The method of claim 13, wherein the substrate is porous.

15. (Currently Amended) The method of claim 12, wherein the ~~substrate includes~~ uniform supporting layer comprises a patterned monolayer of carbon nano- or micro-particles.

16. (Original) The method of claim 15, wherein the substrate comprises non-carbon elements selected from the group consisting of Si, N, and P, to produce a hetero-substrate.

17. (Currently Amended) The method of claim 16, wherein the substrate and the hetero-substrate are placed in a multilayer configuration.

18. (Original) The method of claim 16, wherein the hetero-substrate contains Si which is incorporated into the nanotube produced on the mat and produces a hetero-nanotube with carbon and silicon.

19. (Original) The method of claim 17, wherein the multilayer configuration produces a complex nanotube comprising carbon and silicon in alternating layers.

20. (Original) The method of claim 13, wherein the carrier gas comprises a carbon source, a hydrogen source and an inert gas.

21. (Original) The method of claim 20, wherein the inert gas is selected from the group consisting of He, Ne, Ar, Kr, and Xe.

22. (Original) The method of claim 21, wherein the inert gas is Ar.

23. (Currently Amended) The method of claim 13, wherein ~~in~~ the nanotubes are gathered and drawn away from the mat by an anchorage device or a negative pressure.

24. (Original) The method of claim 23, wherein the nanotubes are gathered by a negative pressure.

25. (Original) The method of claim 13, wherein activating the mat is achieved by applying an electric current across the mat.

26. (Original) The method of claim 13, wherein the catalytic particles are a metal.

27. (Cancelled)

28. (Currently Amended) The method of claim ~~27~~ 26, wherein the metal is selected from the group consisting of Fe, Co, Ni, Y, Mo and their alloys.

29. (Currently Amended) A nanotube growing mat comprising:

a substrate ~~including~~ comprising a uniform supporting layer and carbon;

nanosized catalytic particles, wherein ~~the~~ a set is applied in a bi-dimensionally organized monolayer on the substrate in a predetermined pattern which promotes growth of nanotubes from the catalytic particles as a function of the pattern.

30. (Original) The mat of claim 29, comprising an electrical connection.

31. (Original) The mat of claim 29, wherein the substrate is porous.

32. (Currently Amended) The mat according to claim 29, wherein the ~~substrate includes~~ uniform supporting layer comprises a patterned monolayer of carbon nano- or micro-particles.

33. (Original) The mat of claim 32, wherein the carbon substrate comprises non-carbon elements selected from the group consisting of Si, N, and P, to produce a hetero-substrate.

34. (Original) The mat of claim 33, wherein carbon substrate and the hetero-substrate are placed in a multilayer configuration.

35. (Original) The mat of claim 34, wherein the hetero-substrate contains Si which is incorporated into the nanotube produced on the mat and produces a hetero-nanotube with carbon and silicon.

36. (Original) The mat of claim 34, wherein the multilayer configuration produces a complex nanotube comprising carbon and silicon in alternating layers.

37. (Cancelled)

38. (Cancelled)

39. (Cancelled)

40. (Cancelled)

41. (Currently Amended) The mat of claim ~~40~~ 29, wherein the nanotubes are gathered by a negative pressure.

42. (Cancelled)

43. (Original) The mat according to claim 29, wherein the catalytic particles are a metal.

44. (Cancelled)

45. (Currently Amended) The mat according to claim ~~44~~ 43, wherein the metal is selected from the group consisting of Fe, Co, Ni, Y, Mo and their alloys.

46. (Cancelled)

47. (Cancelled)